

Therapy monitoring robot

Abstract

The purpose of rehabilitation is to let the patient who has difficulties of moving some parts of their body to recover. Patient will work one-on-one with physiotherapist who helps them to repeatedly perform the exercise but unfortunately, the number of physiotherapist becomes limited with numerous patients. Moreover, the disadvantages found in quite a number of commercialized rehabilitation robots in terms of their weight and product cost. This paper design a monitoring robot for rehabilitation. It consists of motors, monitoring sensor which called Surface Electrode and actuators. This robot helps the patients to move their lower limb to experience flexion and extension motions in two degree of freedom (DOF) with the help of motors. The motors can be controlled remotely by the patient itself for forwarding and reversing movements. The Surface Electrode will keep monitor the patient's progress in terms of the movement of muscle of the leg or any related to the area of the sensor being placed. The result shows that the project will ease the physiotherapist work by analyze the data given by the sensors and with help of the robot and patient can remotely control the motors to continue the rehabilitation process.

Keywords

Robotics, Musculoskeletal system